REMARKS

This Preliminary Amendment is submitted to correct several inadvertent spelling and grammatical errors and errors with regard to claim dependency in the original claims. In addition, to clarify the nature of the claimed invention, subject matter from original claim 16 was incorporated into claim 1. New claims 64-117 directed to the sample plates disclosed in the present application were added as well as claims to the use of the plates to detect separation of differently charged molecules. Support for the new claims may be found in original claims 1-63. No prohibited new matter has been added.

Except for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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APPENDIX

The following amendments were presented above:

1. (Amended) A system for separating sample molecules having different charges in a plurality of samples, comprising:

a sample plate comprising a plurality of [substantially tubular] sample wells arrayed in the sample plate;

at least one capture matrix, wherein the capture matrix is disposed in each of the sample wells proximate an end of the sample wells, and wherein the capture matrix comprises at least two layers of material, wherein the layers comprise at least one diffusion inhibiting layer consisting of a diffusion-inhibiting material and at least one binding layer comprising a material having the ability to covalently or non-covalently bind at least one molecule of interest;

at least one first electrode capable of being placed in electrical contact with at least one sample well at the bottom end of the sample well, and at least one second electrode capable of being placed in electrical contact with the top end of the sample well, wherein both electrodes are coupled to a power source.

16. (Amended) The system of claim 1 [wherein the capture matrix further comprises at least two layers of material, wherein the layers comprise at least one diffusion-inhibiting layer consisting of a diffusion inhibiting material and at least one binding layer comprising a material having the ability to covalently or non-covalently bind at least one molecule of interest, and]

wherein the diffusion-inhibiting layer is disposed between the binding layer and openings of the sample wells.

17. (Amended) The system of claim [16] 1 wherein the binding layer binds the molecule of interest specifically.

19. (Amended) The system of claim [18] 1 wherein the binding layer binds the molecule of interest non-specifically.

20. (Amended) The system of claim 19 wherein the binding layer comprises a material selected from the group consisting of metal chelate resins, anionic resins, [and] cationic resins, polyvinylidine fluoride, nitrocellulose, [positively] charged nylon, and porous glass.

28. (Amended) The system of claim 1 wherein the thickness of the capture matrix along the axis of the [tubular] sample well is less than 0.5 cm.

29. (Amended) The system of claim 1 wherein the thickness of the capture matrix along the axis of the [tubular] sample well is less than 0.2 cm.

30. (Amended) The system of claim 1 wherein the thickness of the capture matrix along the axis of the [tubular] sample well is less than 0.1 cm.

33. (Amended) A method for separating a charged molecule of interest from a mixture of molecules having different charges in a plurality of samples, [and quantifying the amount of charged molecule of interest in the samples,] the method comprising:

(a) dispensing a liquid into the sample wells of the system of claim 1;

(b) adding a sample containing a mixture of molecules to at least two of the sample wells of the device;

(c) applying an electric field across the sample wells by energizing the electrodes, whereby the charged molecule of interest is transported by the electric field into the capture matrix; and

(d) detecting [the amount of] the charged molecule of interest captured within the capture matrix.

40. (Amended) The method of claim 33, wherein the second electrode comprises [and] an array of conductive fluid members in electrical contact with at least one electrode.

55. (Amended) The method of claim 33, wherein an electric potential in the range of 30V to 200V is applied across the sample plate to generate the electric field. [useful voltages, more preferably between, and most preferably.]

58. (Amended) The method of claim 33 wherein the charged molecule of interest is the product of [a substrate] an enzymatic reaction wherein the net charge of a substrate is changed in the enzymatic reaction.

59. (Amended) The method of claim [57] 58 wherein the charged molecule of interest and the substrate both comprise a detectable labeling moiety.

61. (Amended) The method of claim [57] 58 wherein the method is capable of detecting the enzymatic conversion of at least 10% of the substrate.

62. (Amended) The method of claim [57] 58 wherein the method is capable of detecting the enzymatic conversion of at least 1.0% of the substrate.

63. (Amended) The method of claim [57] 58 wherein the method is capable of detecting the enzymatic conversion of at least 0.1% of the substrate.